



JANUARY/FEBRUARY 2022

Xplor

SNOW IS FOR THE BRRRRRDS

HOW MANY FLOOFY FELLOWS
HAVE YOU SEEN THIS WINTER?



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Pull on your snow boots for a nature-filled hike.

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Winning in the wild is about staying alive.

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Pull out this poster and tape it to your wall to make your room look wild.

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Ducks in a row: Female mallards tuck their beaks under their wings for a chilly winter nap, while a male mallard gets up to ruffle some feathers.

by Noppadol Paothong

ON THE COVER

Tufted Titmouse

by Noppadol Paothong

STRANGE BUT TRUE

Your guide to all the
UNUSUAL, UNIQUE,
AND **UNBELIEVABLE**
stuff that goes on in nature

Life flutters by quickly for most butterflies. Many live for only a few weeks. But **MOURNING CLOAKS** can live 10 months or longer. Adults emerge in June and July, hibernate during winter, and survive until spring.



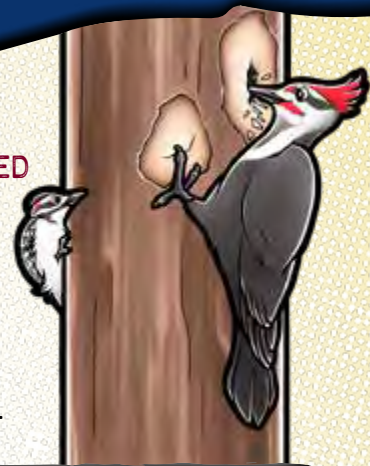
In the fall, a **BEAVER** family may gather 2,000 pounds of branches and stick them into the mud in deep water near their den. When winter comes, family members swim under the ice to grab a stick for a snack.



Snow is nothing to grouse about — if you're a **RUFFED GROUSE**. The woodland birds grow comb-like bumps on their toes during winter. The bumps work like snowshoes to help a grouse walk on top of deep snow.



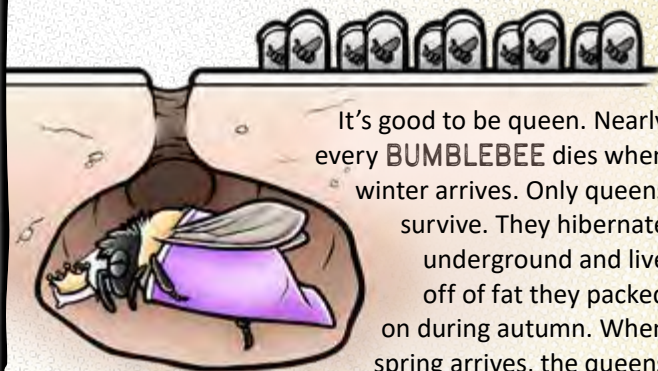
HAIRY WOODPECKERS sometimes follow **PILEATED WOODPECKERS** around the forest. When the larger bird flies away to hammer on a new tree, the smaller one swoops in to search the hole for yummy insects left behind.



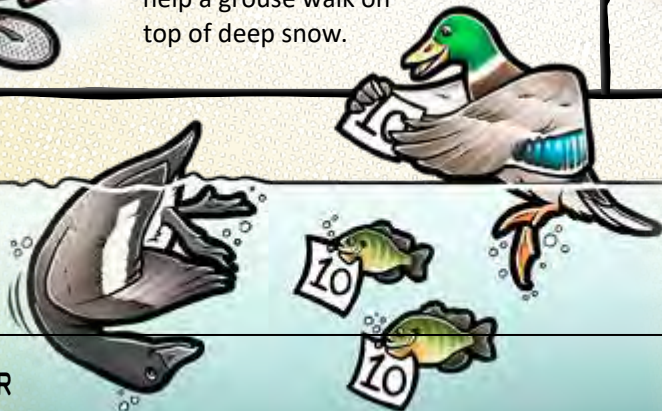
The **EASTERN COTTONWOOD** is Missouri's fastest growing native tree. Under ideal conditions, it can reach a height of 50 feet in only six years. If humans grew that fast, you'd be 6 feet tall before your first birthday.



It's good to be queen. Nearly every **BUMBLEBEE** dies when winter arrives. Only queens survive. They hibernate underground and live off of fat they packed on during autumn. When spring arrives, the queens lay eggs to start new colonies.



LESSER SCAUP sometimes do somersaults in the water. The *quackrobats* aren't trying to win the Olympics. They're trying to eat tiny animals called amphipods off of their chest feathers and flipping over in the process.



WHAT IS IT?

DON'T KNOW? Jump to page 21 to find out.

- 1 At the bottom of a stream, I make my stand ...
- 2 ... in a castle built from leaves, pebbles, and sand.
- 3 Water that's clean is really quite grand.
- 4 But as an adult, I prefer land.



Ask an OPOSSUM

Hi! I'm Phi, Xplor's mail possum. I know a lot about nature. If you have a question, email me at AskPhi@mdc.mo.gov.



Q: Why do opossums have pouches?
From Avayah, age 7

A: Believe it or not, girl possums are the only mammal in Missouri with a pouch. We're marsupials, like kangaroos and koalas. A pouch is a big pocket, but instead of cellphones and spare change, we keep babies in there. Newborn possums aren't much bigger than kidney beans. They're too itty-bitty to survive on their own, so they crawl inside their mom's pouch. Once they're in there, the little pouch potatoes have a safe place to grow for nearly two months.

HOW TO

FEED YOUR FEATHERED FRIENDS

Putting up bird feeders is a great way to keep your beak-tipped buddies well fed all winter long.



CHOOSING A FEEDER

Different kinds of feeders attract different kinds of birds. Putting up more than one feeder will keep bully birds from hogging all the food — we're looking at you, blue jay.

Tube feeders with compact perches are best for small, agile birds like chickadees, titmice, and goldfinches.

Hopper or platform feeders are better for larger birds like blue jays, northern cardinals, and doves.

Suet cages attract woodpeckers, wrens, and nuthatches.

KEEP IT CLEAN

You wouldn't want to eat off of a dirty plate, and your feathered friends don't want to either. Wash your feeders in soapy water about every two weeks. Let them dry completely before filling them with seeds.

DIFFERENT TREATS FOR DIFFERENT TWEETS

What should you serve at your bird buffet? Black-oil sunflower seeds attract the widest variety of birds. Millet is good for birds like sparrows and doves that search for food on the ground. And suet cakes work best for insect eaters like woodpeckers and nuthatches.



BLACK-OIL SUNFLOWER SEEDS



MILLET



SUET

OFFER SHELTER

When possible, put your feeders near trees and shrubs — but not too close. Birds need shelter from wind, snow, and predators. But bushes also offer hiding places for cats and other bird munchers. Hanging feeders about 10 feet away will give birds the best chance.

LOCATION, LOCATION, LOCATION

Placing feeders within 3 feet of a window is the best way to keep birds from crashing into the glass. Birds are more likely to notice the window, and even if they don't, they aren't likely to be flying fast when they take off and land at the feeder.

BAFFLE THE SQUIRRELS

Bushy-tailed bandits can gobble seed by the bushel. Discourage squirrels by putting baffles — saucer-shaped or tubular pieces of metal or plastic — below or above your feeder.

DON'T FORGET WATER

Like all animals, birds need water to survive. To keep a thirsty bird's whistle wet, fill a shallow pan or birdbath with water. An immersion-style heater (sold at bird-feeding stores) will keep the water from freezing. Change the water every day to keep it fresh and clean.

A Walk in the WINTER WOODS

Nature in winter may seem silent and still. But there's plenty of life to find if you know where to look.

Snow Fleas

If you find tiny black specks in the snow at the base of a tree, it probably isn't pepper. Tiny creatures called snow fleas become active on sunny winter days. When the flea wants to flee, it releases its spring-loaded tail and flings forward.



Virginia opossum



Eastern cottontail



White-tailed deer



Tracks in the Snow

Most mammals prowl around after dark, so you may not see many in the flesh and fur. But footprints in the snow offer evidence of their nightly wanderings.

Striped skunk



Raccoon





Ruby-crowned kinglet

Foraging Flocks

In winter, birds gather to search the forest for food. If you hear a flock but can't see it, hiss through your teeth to make a loud *pish-pish-pish* sound. This noise mimics the alarm call of a wren, and curious birds will fly closer to investigate.



Carolina wren

Chicka-dee-dee-dee



Black-capped chickadee

A metallic chip, chip, chip



Northern cardinal



Tufted titmouse

A fussy, scratchy tsee-day-day-day

Warning Calls

As you're walking, pay attention to the sounds of the forest. When animals spot you, many will call out to warn others of danger.



Blue jay

A scolding thief, thief, thief

Deer Antlers

White-tailed bucks drop their antlers from late December through February. Search for "sheds" on south-facing hillsides, in crop fields, and along deer trails. If you're lucky enough to find an antler, you might notice it's riddled with teeth marks. Rodents gnaw on antlers to get minerals like calcium, which they use to strengthen their bones and teeth.



Eastern Screech-Owl

Look inside tree cavities, and you might find a screech-owl taking a nap. The camouflage pattern on its feathers makes the little bird all but invisible against a barky background. Songbirds sometimes gather near an owl and raise a ruckus to drive the predator away.



Eastern screech-owl

A high-pitched, horselike whinny



Great horned owl

Hoo, huh-HOO, hooo, hooo.



Barred owl

A series of hoots that sounds like, "Who cooks for you? Who cooks for you all?"

Hoots

If your hike lasts until twilight, you might hear owls calling to each other.

Owl Pellets

Search the ground underneath a roosting owl's perch. You might find leftovers from its supper. When an unlucky rodent ends up in an owl's belly, the soft, meaty parts are quickly digested. Bones, fur, and teeth — which are hard to digest — are barfed up a few hours later as a hairy gray pellet.



White-Breasted Nuthatch

White-breasted nuthatches search trees for insects to eat. The nimble little birds start at the top and creep down the trunk, usually going headfirst.



Stained Snow

Eastern cottontails sometimes stain snow pink, red, orange, or brown with their pee. The off-colored urine is caused by pigments in plants the rabbit has eaten.



Empty Nests

With tree branches bare, look for the empty nests of bald-faced hornets.



Woodpeckers

These head-banging birds are usually easy to locate by their harsh calls and their *rat-a-tat-tapping* on trees. They hammer to find insects to eat, make nest holes, and tap out messages to fellow woodpeckers.

Downy woodpecker

Red-headed woodpecker

Pileated woodpecker

Hairy woodpecker

Red-bellied woodpecker



Eastern comma



Mourning cloak

Butterflies

On warm winter days, keep an eye out for comma and mourning cloak butterflies. These hardy insects hibernate during the depths of winter and wake up when temperatures rise.

Mushrooms

Mushrooms can be found growing on trees (usually dead ones) at any time of the year. As part of nature's recycling team, they break down dead stuff and turn it into nutrients that other living things use to grow.

Oyster mushrooms are delicious, but never, ever dine on any fungus unless you're sure it's safe to eat.

Turkey tail mushrooms are found on nearly every rotting log in the woods. Can you guess why they're called turkey tails?

If you find an artist conk growing on a tree, use a stick to scratch its snow-white underside. Like magic, wherever you scratch will turn dark.



Oyster mushroom



Turkey tail mushroom



Artist conk

NORTH AMERICAN RIVER OTTER

A detailed illustration of a North American River Otter swimming underwater. The otter is shown from the side, with its long, thick tail curved upwards. Its head is turned towards the right, showing its eyes and whiskers. The otter is surrounded by bubbles and is swimming near a rocky riverbed with several large clams. The background is a blue gradient with a pattern of small white dots.

TAIL RUDDER

With a swish of its long, thick tail, an otter can twist and turn to outswim almost any fish.

FABULOUSLY FURRY

Each square inch of skin is covered with nearly 375,000 hairs. The thick fur keeps an otter cozy in icy water.

TOUCHY MUSTACHE

Bushy whiskers help an otter feel for food in dark or murky water. The hairs can even detect currents created by fish swimming nearby.



WATERPROOF SNOOT

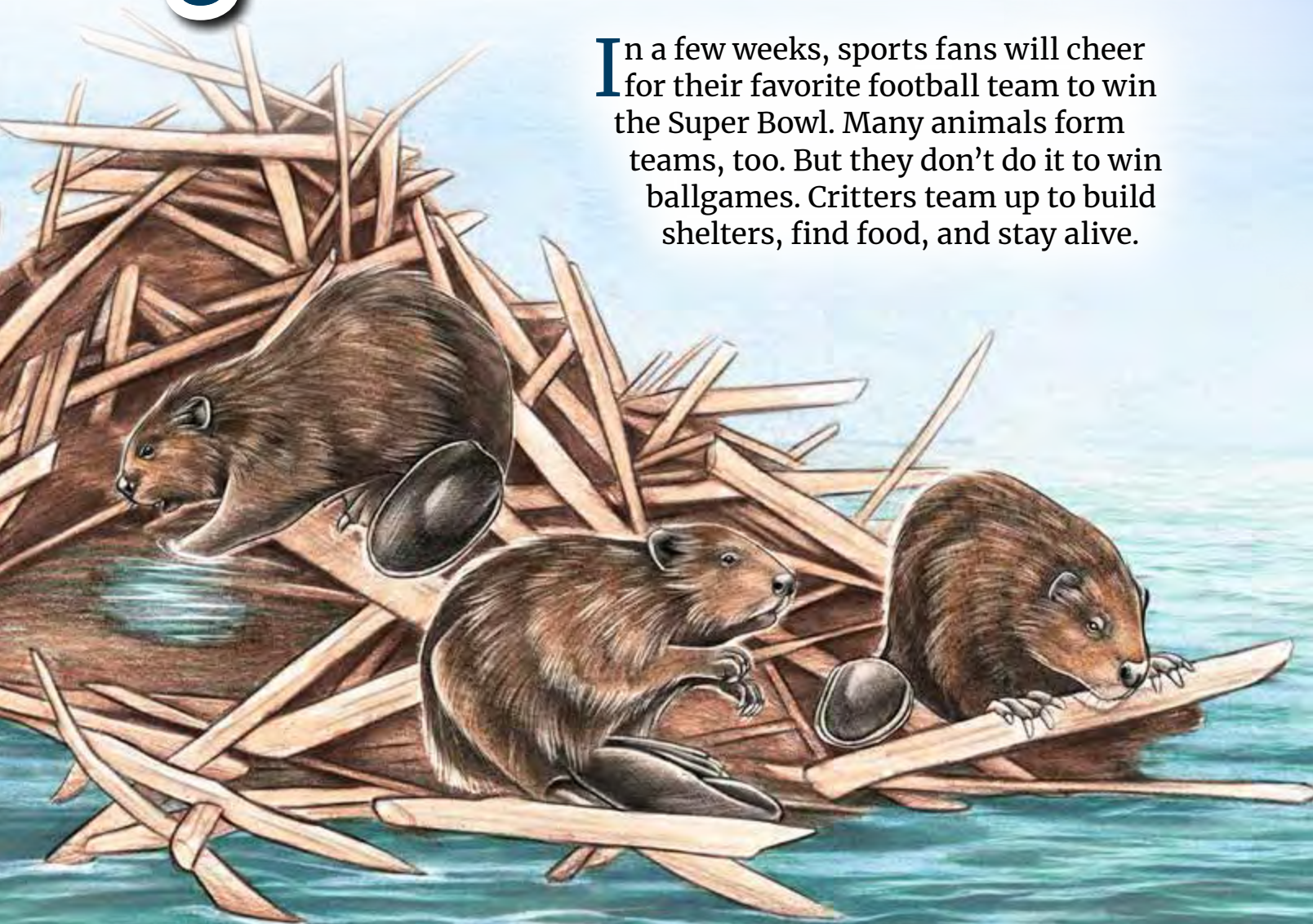
Nose clips and earplugs aren't needed. An otter can simply squeeze its schnoz and ears shut to keep out water.

PADDLE PAWS

Webbed toes turn paws into paddles. With a few kicks, an otter can rocket through water like a furry torpedo.

Animal Teams

In a few weeks, sports fans will cheer for their favorite football team to win the Super Bowl. Many animals form teams, too. But they don't do it to win ballgames. Critters team up to build shelters, find food, and stay alive.



A large peregrine falcon is shown in the upper left, diving towards a large flock of blackbirds. The blackbirds are scattered across the sky, some in sharp focus and others blurred in the background, creating a sense of movement. The falcon has a grey and white mottled pattern on its wings and back, with a yellow beak and eyes.

Safety in NUMBERS

A flock of blackbirds smudges the sky like a giant cloud of pepper. It rises, dips, and turns as if it were a single, living thing. But it's not. It's made up of thousands of individual birds, flying and changing direction in unison.

Swoosh! From high above, a peregrine falcon dive-bombs the blackbirds, hoping to make one of them its meal.

But with so many eyes watching for danger, the blackbirds spot the attack. The flock peels apart, and the falcon whooshes harmlessly in between.

A beaver is shown swimming in the water, with its head and one of its large, flat tails visible above the surface. The water is a light blue-green color, and the beaver's fur is brown.

Teamwork Makes the DEN WORK

Construction is a family business for beavers. Mom, pop, and the kids work together to gnaw down trees and nip off branches. They haul the bark-covered

building supplies to the water and stack them up to form a dam. Handfuls of mud help plaster the branches in place. When the dam is finished, water pools behind it, forming a wetland. Soon, the new habitat hums with life as ducks, herons, and muskrats move in.

RACE to the Grave

American burying beetles eat dead animals. Mouse-sized morsels get eaten on the spot. Larger animals are saved for later.

Working together at night, two beetle parents use their heads to bulldoze soil out from under a corpse. Inch by inch, it sinks into a shallow grave. This isn't easy for a thumb-sized insect. If you think it is, try burying a car using only your hands!

Once it's buried, the female lays eggs on top of it. When the eggs hatch, the parents feed the meat to their babies.



HUNGER Games

Coyotes have been known to team up with American badgers to bag snacks. The toothy teammates spell double the trouble for ground squirrels and other tunnel dwellers. Why? If a squirrel hunkers down in its hole, the burly badger digs it up for dinner. But if the squirrel scurries out of its burrow, the crafty coyote is waiting at the entrance to snap it up.



Huddle UP!

Southern flying squirrels can't pack on fat for winter like other squirrels. If they did, they'd be too heavy to glide. So when

temperatures plummet, the little forest flyers crowd into tree cavities and snuggle together to keep cozy. Their furry bodies can warm a den by 30 degrees. Nineteen squirrels have been found denning together in Missouri, and 50 were packed into a single tree in Illinois!



Follow the LEADER

Turkey vultures have super sniffers that they use to find dead animals to dine on.

Black vultures, like most birds, can't smell squat. To find food, black vultures soar in large flocks until they see a turkey vulture descend. Then, the black vultures quickly drop and pile on the carcass, using their numbers to bully the turkey vulture off its dinner. When the feeding frenzy ends, the turkey vulture returns to snap up any scraps that remain.



V for Victory

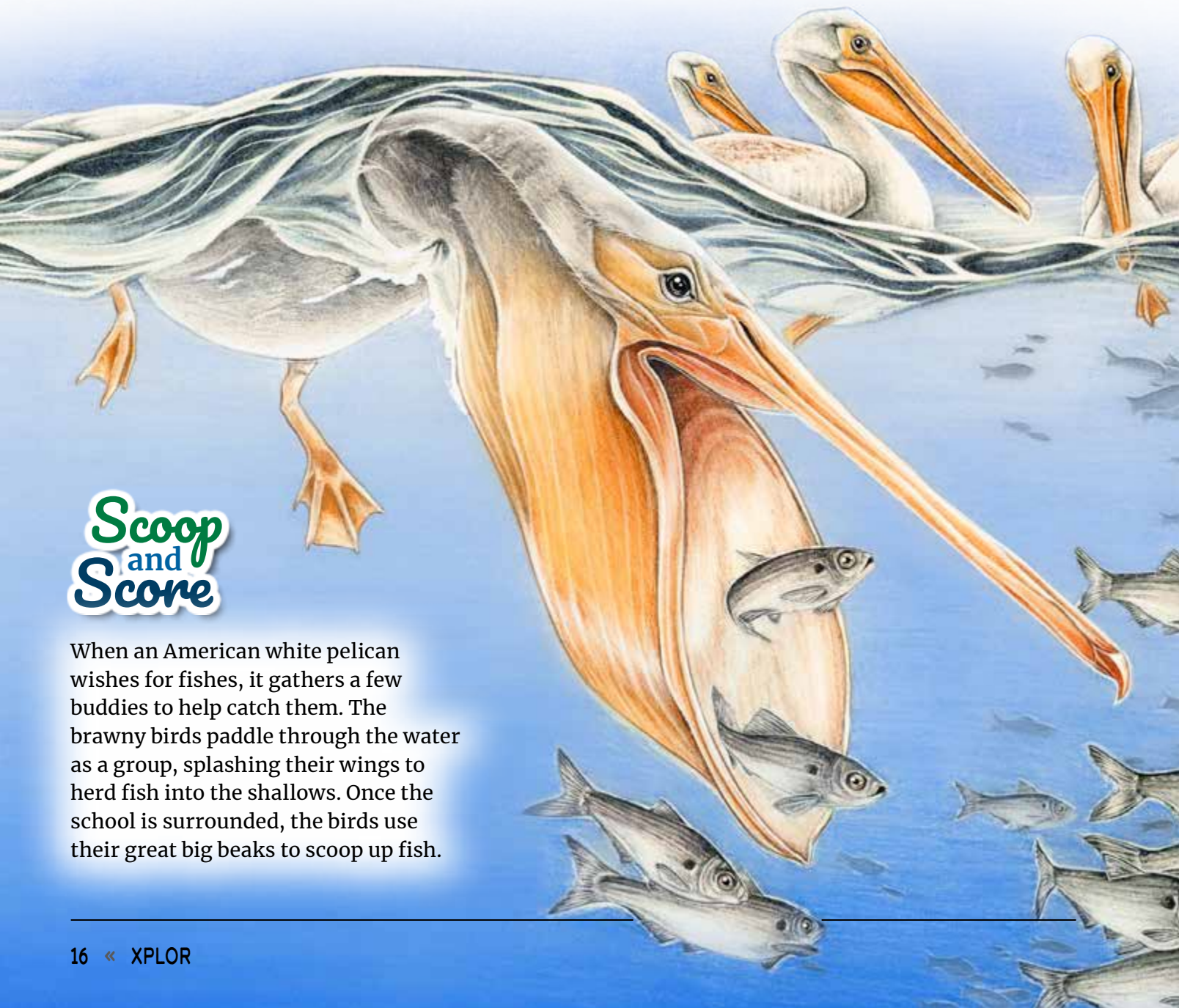
Geese fly in a “V” for a reason, and it isn’t to avoid goosing each

other. By flying in a wedge, geese in the front slice through the air and block the wind for geese flying in the back. This helps members of the flock save energy during long migration flights. When the goose at the front gets tired, it drops back and lets a different honker be the leader.



Scoop and Score

When an American white pelican wishes for fishes, it gathers a few buddies to help catch them. The brawny birds paddle through the water as a group, splashing their wings to herd fish into the shallows. Once the school is surrounded, the birds use their great big beaks to scoop up fish.



DANGEROUS *Defense*

If there were a trophy for best defense, these wasps would win it. When a predator digs up a yellow jacket nest, worker wasps swarm out. Each worker's business end is tipped with a sharp stinger that the wasp stabs into the attacker over and over. When they sting, yellow jackets release odors called "alarm pheromones" that rally even more wasps to attack. Large nests can contain 2,000 angry yellow jackets, which is more than enough to stop most predators.



PLAYING the *Odds*

Large schools of fish, like these gizzard shad, use numbers to their advantage. In a small school, a predator has fewer fish to pick from, so each little fishy has a higher chance of taking a one-way trip down a pelican's pie hole. But in a large school, a predator has more choices, so each fish has a much lower chance of being eaten.



XPLOR MORE

BIRDS in the BRUSH



Brush piles are high-rise hotels for all kinds of critters. Nooks and crannies between branches provide “rooms” where animals take shelter when weather turns wintry.

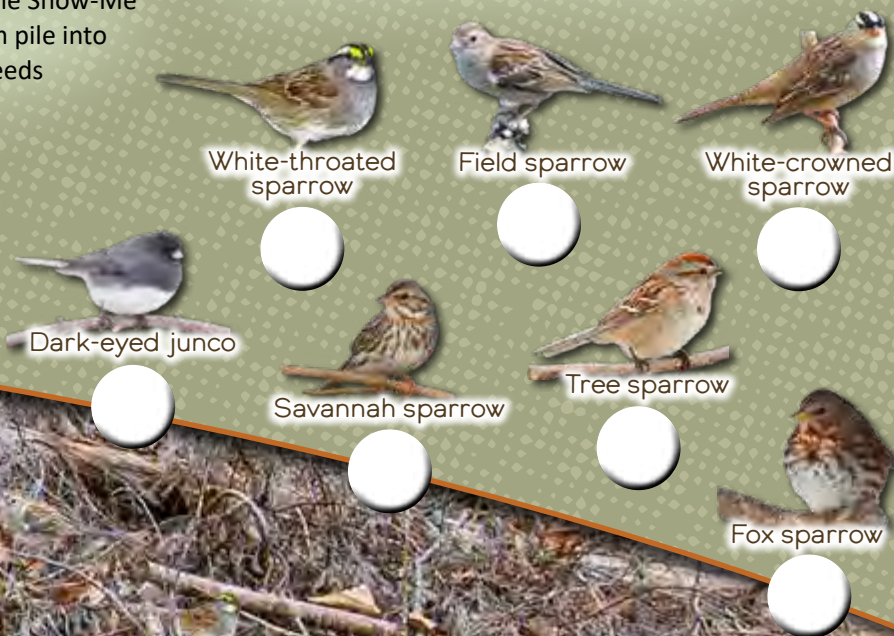
Nearly a dozen kinds of sparrows flock to the Show-Me State during the snowy months. Many of them pile into brush piles to keep cozy and to feast on the seeds of weeds that grow between branches.

Sparrows are what birdwatchers call “LBBs” — little brown birds — which means they’re hard to spot against a brushy background. Their unflashy feathers also make it tough to tell one kind of sparrow from another. But look closely at each bird’s head and body, and you’ll soon spot clues to help you identify different species.

This brush pile is stuffed with sparrows!

How many of each kind can you find?

Hint: There are 25 sparrows in total.



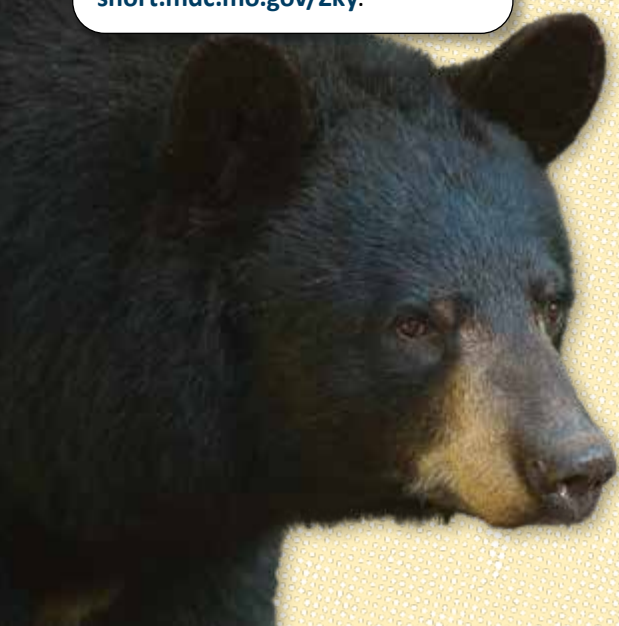
GET OUT!

FUN THINGS TO DO
AND GREAT PLACES
TO DISCOVER NATURE



Witness a **MIGRATION SENSATION** by visiting one of Missouri's wild wetlands. You'll see thousands of ducks, geese, and other waterbirds refueling for their journey north.

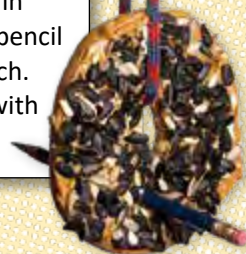
BLACK BEARS begin to emerge from winter dens in February. Learn how to be bear aware at short.mdc.mo.gov/Zky.



To show off for females, male **COTTONTAILS** chase, punch, and jump over each other. Bunny battles are triggered when temperatures climb above 60 degrees.

SHARE A BAGEL WITH SOME BIRDS.

Smear peanut butter on a bagel. Roll it in birdseed. Poke a pencil through for a perch. Hang it in a tree with a loop of yarn.



EASTERN BLUEBIRDS

nest in early spring. Learn how to build a home tweet home for Missouri's colorful state bird at audubon.org/news/how-build-bluebird-nest-box.



Don't put away your tent just because it's cold outside. **WINTER CAMPING** can be fun and cozy — if you know how to do it right. For tips, check out short.mdc.mo.gov/ZvT.



Looking for more ways to have fun outside? Find out about Discover Nature programs in your area at mdc.mo.gov/events.



WHAT
IS
IT?

— FROM PAGE 3 —



CADDISFLY LARVA

Caddisfly babies, or larvae, live underwater. Many species build tube-shaped homes out of leaves, pebbles, or sand. The home offers camouflage, protects the baby's squishy belly, and adds weight so the little insect isn't swept away by swift currents. Caddisflies need clean water to survive. Finding them is a clue that a stream is healthy. Near the end of their lives, caddisflies transform into air-breathing, moth-like adults.



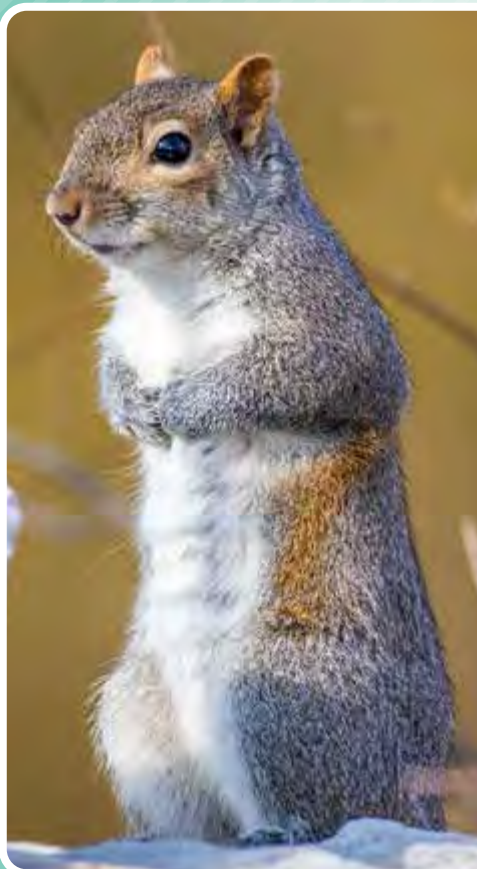
Adult caddisfly

GO FIND IT!



Cut out this critter card and take it with you outside.
How many of the things on the card can you find?

EASTERN GRAY SQUIRREL



TREETOP APARTMENT

The large leafy nests you see in trees don't belong to birds. Squirrels build them to sleep in.

TALENTED TAILS

A squirrel uses its bushy tail for balance, for shade on a sunny day, as an umbrella when it rains, as a blanket when it's cold, and as a parachute if it falls.

CATCHING THE LOVE BUG

During mating season, males chase females up, down, and around trees.

CHATTERBOXES

When it's angry or scared, a squirrel flicks its tail and barks out *cherk! cherk! cherk!* to warn other squirrels.

MESSY EATERS

When nibbling nuts, squirrels are messier than your baby brother eating spaghetti. Their picnic sites are littered with half-eaten acorns and hickory nut shells.

SUBSCRIBE ONLINE

mdc.mo.gov/xplor

FREE TO MISSOURI HOUSEHOLDS

GO FIND IT! 

Look for gray squirrels in forests, backyards, and nearly anywhere nut trees are found. To learn more about them, scamper over to mdc.mo.gov/field-guide.

EASTERN GRAY-SQUIRREL

